

AMENDMENTS TO THE CLAIMS

Please amend the claims according to the following listing of the claims.

Listing of the claims

1. (Currently Amended) Method for fractional crystallisation of an at most partially solidified molten metal, comprising:

introducing the at most partially solidified molten metal into a chamber with a lower wall and an upper wall and divided into a series of compartments communicating with each other, wherein the introduced at most partially solidified molten metal optionally comprises crystals,

stirring the metal in at least some of the compartments,

forming crystals in a layer of the metal in the compartments, and

wherein crystals in the layer of the metal in the compartments are selectively transported in a predetermined direction and molten metal is selectively transported in the opposite direction;

wherein the method refines aluminum,

wherein a temperature difference is present over the length of the layer of metal, the higher temperature being present at an end of the metal layer to which the crystals are transported.

2. (Cancelled)

3. (Previously Presented) Method according to claim 1, wherein the compartments in the chamber are formed by compartment walls present in pairs, one wall extending towards and adjacent to the lower wall of the chamber and the other wall extending from the lower wall of the chamber towards the upper wall of the chamber.

4. (Previously Presented) Method according to claim 1, wherein the compartments in the chamber are formed by compartment walls present in pairs, one wall extending from the upper wall of the chamber towards the lower wall of the chamber and the other wall extending towards and adjacent to the upper wall of the chamber.

5. (Previously Presented) Method according to claim 1, wherein a layer of transporting liquid is present below and/or above the metal to selectively transport the crystals, and the compartments in the chamber are formed by compartment walls extending towards and adjacent to the layer of transporting liquid.

6. (Previously Presented) Method according to claim 1, wherein the lower wall of the chamber is inclined, and the compartments are formed by compartment walls extending towards and adjacent to the lower wall of the chamber.

7. (Previously Presented) Method according to claim 2, wherein the upper wall is inclined and the compartments are formed by compartment walls extending towards and adjacent to the upper wall of the chamber.

8. (Previously Presented) Method according to claim 3, wherein the compartment walls are adjustable such that the ends of the compartment walls are placed nearer to or further from the upper wall and lower wall, respectively, of the chamber.

9. (Previously Presented) Method according to claim 1, wherein mixing means are present to stir the metal in at least some of the compartments, the mixing velocity of the mixing means being variable.

10. (Previously Presented) Method according to claim 1, wherein molten metal and/or crystals are removed at the end of the layer of metal towards which the crystals are selectively transported.

11. (Cancelled)

12. (Previously Presented) Method according to claim 1, wherein said method removes one or more of the elements Cu, Fe, Ga, Mg, Mn, B, Si, Sn, Zn, and Ni from the aluminum.

13. (Previously Presented) Method according to claim 1, wherein the compartments are formed by compartment walls present in pairs, the compartment walls of each pair being placed adjacent to each other, one wall extending from the upper surface of the layer of metal towards the lower surface of the layer of metal and the other wall extending towards and adjacent to the upper surface of the layer of metal.

14. (Previously Presented) Method according to claim 1, wherein a layer of

transporting liquid is present below and/or above the layer of metal to selectively transport the crystals, and the compartments are formed by compartment walls extending towards and adjacent to the layer of transporting liquid transporting the crystals, the transporting liquid being a molten salt.

15. (Previously Presented) Method according to claim 4, wherein the compartment walls are adjustable such that the ends of the compartment walls are placed nearer to or further from a surface of the layer of metal they extend towards.

16. (Previously Presented) Method according to claim 3, wherein the compartment walls of each pair being preferably placed adjacent to each other.

17. (Currently Amended) ~~Method according to claim 1,~~ for fractional crystallisation of an at most partially solidified molten metal, comprising:

introducing the at most partially solidified molten metal into a chamber with a lower wall and an upper wall and divided into a series of compartments communicating with each other, wherein the introduced at most partially solidified molten metal optionally comprises crystals,

stirring the metal in at least some of the compartments,

forming crystals in a layer of the metal in the compartments, and

wherein crystals in the layer of the metal in the compartments are selectively transported in a predetermined direction and molten metal is selectively transported in the opposite direction;

wherein the method refines aluminum,

wherein a temperature difference is present over the length of the layer of metal, the higher temperature being present at a first end of the chamber to which the crystals are transported and a lower temperature being present at a second end of the chamber to which the molten metal is transported,

wherein the temperature in a first said compartment closer to the first end is higher than a second said compartment relatively closer than the first compartment to the second end,

wherein, the crystals formed and/or existing in the layer of metal in at least one respective compartment comprise aluminum and Fe while the molten metal in said respective compartment comprises a lower aluminum content than the crystals in said respective compartment and a higher Fe-content than the crystals in said respective compartment.

18. (Previously Presented) Method according to claim 2, wherein the method removes Fe from the aluminum.

19. (Previously Presented) Method for fractional crystallisation of an at most partially solidified molten metal, comprising:

dividing a layer of at most partially solidified molten metal having an upper surface and a lower surface into a series of compartments communicating with each other,

stirring the metal in at least some of the compartments,

forming crystals within the layer of metal, and

wherein crystals in the layer of metal in the compartments are selectively transported in a predetermined direction and molten metal is selectively transported in the opposite direction,

wherein a layer of transporting liquid is present below and/or above the layer of metal to selectively transport the crystals, and the compartments in the layer of metal are formed by compartment walls extending towards and adjacent to the layer of transporting liquid transporting the crystals, the transporting liquid being a molten salt.

20. (Previously Presented) Method for fractional crystallisation of an at most partially solidified molten metal, comprising:

introducing the at most partially solidified molten metal into a chamber with a lower wall and an upper wall and divided into a series of compartments communicating with each other, wherein the introduced at most partially solidified molten metal optionally comprises crystals,

stirring the metal in at least some of the compartments,

forming crystals in a layer of the metal in the compartments, and

wherein crystals in the layer of the metal in the compartments are selectively transported in a predetermined direction and molten metal is selectively transported in the opposite direction;

wherein a temperature difference is present over the length of the layer of metal, the higher temperature being present at an end of the metal layer to which the crystals are transported.